Stories of Hope: Spinal Cord Injury

Español

Katie Sharify had six days to decide: would she let her broken body become experimental territory for a revolutionary new approach—even if it was unlikely to do her any good? The question was barely fathomable. She had only just regained consciousness. A week earlier, she had been in a car crash that damaged her spine, leaving her with no sensation from the chest down. In the confusion and emotion of those first few days, the family thought that the treatment would fix Katie's mangled spinal cord. But that was never the goal. The objective, in fact, was simply to test the safety of the treatment. The misunderstanding – a cure, and then no cure -- plunged the 23-year-old from hope to despair. And yet she couldn't let the idea of this experimental approach go.

Just days after learning that she would never walk again, that she would never know when her bladder was full, that she would not feel it if she broke her ankle, she was thinking about the next girl who might lie in this bed with a spinal injury. If Katie walked away from this experimental approach—what would happen to others that came after her?

Her medical team provided a crash course in stem cell therapy to help Katie think things through. In this case the team had taken stem cells obtained from a five-day old embryo and converted them into cells that support communication between the brain and body. Those cells would be transplanted into the injured spines. Earlier experiments in animal models suggested that, once in place, these cells might help regenerate a patient's own nerve tissue. But before scientists could do the experiment, they needed to make sure the technique they were using was safe by using a small number of cells, too few to likely have any benefit. And that's why they wanted Katie's help in this CIRM-funded trial. They explained the risks. They explained that she was unlikely to derive any benefit. They explained that she was just a step along the way. Even so, Katie agreed. She became the fifth patient in what's called a Phase I trial: part of the long, arduous process required to bring new therapies to patients. Shortly after she was treated the trial stopped enrolling patients for financial reasons.

That was in 2011. Since then, she has been through an intensive physical therapy program to increase her strength. She went back to college. She tried skiing and surfing. She learned how to make life work in this new body. But as she rebuilt her life she wondered if taking part in the clinical trial had truly made a difference.

"I was frustrated at first. I felt hopeless. Why did I even do this? Why did I even bother?" But soon she began to see how small

advances were moving the science forward. She learned the steep challenges that await new therapies. Then in 2014, she discovered that the research she participated in was deemed to be safe and is about to enter its next phase, thanks to a $14.3 million grant from CIRM to Asterias Biotherapeutics. "This has been my wish from day one," Katie says.

"It gives me so much hope to know there is an organization that cares and wants to push these therapies forward, that wants to find a cure or a treatment," she says. "I don't know what I would do if I thought nobody cared, nobody wanted to take any risks, nobody wanted to put any funding into spinal cord injuries.

"I really have to have some ray of hope to hold onto, and for me, CIRM is that ray of hope."

For more information about CIRM-funded spinal cord injury research, visit our fact sheet.
